

Technical Data Sheet

Casein high-end blocking solution

for immunodetection

Order number: 1080

Casein high-end blocking solution is a blocking buffer for Western Blotting and ELISA applications. Casein high-end blocking solution prevents nonspecific binding of proteins by effective saturating of free binding sites on plastic surfaces, membranes or other protein binding surfaces. By incubating the membrane or microtiter plate with Casein high-end blocking solution, free spaces (= potential binding sites) on the surface are saturated by its components. This minimizes unwanted binding of the analyte or the detection antibody to the surface. As a consequence, background can be avoided and sensitivity of the assay can be improved. Casein high-end blocking solution is not comparable with other commercially available or home-made casein-based solutions which are produced by just dissolving and filtration of casein! As a preservative the solution contains < 0.0014 % [w/w] reaction mass of CMIT/MIT (3:1).

What is special about Casein high-end blocking solution?

The more effective the blocker, the more reliable are the results of the assays - even with different specimens. It is important to achieve complete saturation of the surface without any gaps. In addition, any interaction of molecules in the blocking layer with the sample matrix should also be prevented. A good blocker can fill even very small gaps and can minimize such interactions. Casein high-end blocking solution is based on chemically modified and fragmented highly purified casein. The specific procedure during fragmentation of the casein molecules results in a wide spectrum of variably sized casein fragments – reproducible from batch to batch. Due to the variably sized casein fragments, the adsorption efficiency of classic protein-based blockers is combined with a blocking layer of small molecules and maximal density. The mixture of variably sized molecules ensures an extremely dense packing structure of the adsorptive blocking layer. The chemical modification preserves these structures during the assay and helps to minimize interactions between the blocking layer and the sample matrix. Casein high-end blocking solution is well suited to assays which require high reproducibility and low coefficients of variation, such as assays for pre-clinical and clinical studies, production of high-quality diagnostics or measurement of precious specimens.

But caution: Background and nonspecific binding can not only occur at surfaces, but also between antibodies and components of complex specimen. In these cases, we recommend using CleanBlot Background Minimizer 1056. It acts as a filter for binding by depleting nonspecific binding and interference like matrix effects and cross reactivities.



Application

Casein high-end blocking solution is designed for ELISA, EIA, RIA, Western blotting, immuno-PCR, protein arrays and immunohistochemistry and ready-to-use. It can be used without changing the blocking procedure. Suitability of Casein high-end blocking solution should be tested in any assay, because of the different characteristics of assays and antibodies.

After immobilization of capture antibody or target protein, Casein high-end blocking solution (mixed thoroughly!) is added without dilution to wells or membranes. Incubation time has to be adapted depending on surface characteristics by the user. We recommend blocking over night at 4 °C, but in many cases shorter incubation is also promising. After blocking the surface has to be washed with Washing Buffer to make it useable for the next working steps.

Storage

It is possible to store Casein high-end blocking solution at 2-8°C, or at -20°C. The shelf life of the unopened bottle is 1 year. After opening the bottle, add additional preservative or store the solution at -20°C. The buffer tolerates several cycles of freezing and thawing.

Caution: During long-term storage in the refrigerator white-colored fragments of high molecular weight casein can be found in the upper third of the bottle which do not affect the quality and the blocking efficiency. Thus, immediately before use, Casein high-end blocking solution should be mixed thoroughly.

Related products

5560	ECL Xtrasensitivity Kit for immunodetection
1550	BSA blocking solution for immunodetection
1080	CleanBlot Background Minimizer for immunodetection
1095	Peptide blocking solution (BSA-free) for immunodetection
1123	Protein Ladder (11-245 kDa), prestained for molecular biology
1102	Acrylamide Xtra solution 30 % - Mix 37.5:1 for electrophoresis
1106	Acrylamide Xtra solution 30 % - Mix 29:1 for electrophoresis
1554	Acrylamide Xtrapure for biochemistry
1277	SDS Xtrapure for biochemistry
8027	TEMED for biochemistry
1610	Ammonium persulfate for molecular biology
1125	Tris Xtrapure for biochemistry
1275	Glycine for biochemistry

